



Chemistry

Time Remaining: 45/45 (Minutes)

Q.1

Test 1 Introduction to
Fundamental chemistry

Chemistry Unit Wise

Which of the following statements about 12 g sample of C-12 is incorrect?

- A) The number of C-atoms is 6.022×10^{23}
B) The number of C-atoms is the same as number of the atoms in 4.0 g of ${}^4_2\text{He}$
C) The number of C-atoms is the same as electrons in 1.0 g of H_2
D) The number of C-atoms is the same as electrons in 16.0 g of ${}^{32}_{16}\text{S}$

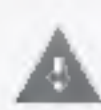
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Correct Answer:

☐ A ☐ B ☐ C ☐ D

Next



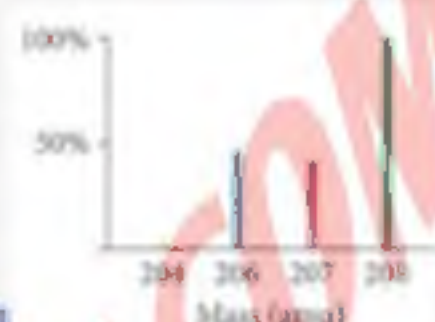
Time Remaining: 44/45 (Minutes)

Q.2

Test 1 Introduction to
Fundamental chemistry

Chemistry Unit Wise

The mass spectrum of lead is shown
What quantities are represented
by x-axis and y-axis?



Options	x-axis	y-axis
A)	Mass number	Relative abundance
B)	Mass number	Atomic number
C)	Atomic number	Height of peak
D)	Atomic number	Mass number

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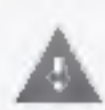
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Correct Answer:

☒ A ☐ B ☐ C ☐ D

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Time Remaining: 44/45 (Minutes)

Q.3

Test 1 Introduction to
Fundamental chemistry

Chemistry Unit Wise

Isotopes of an element possess:

- a. Same physical and chemical properties
- b. Different physical and chemical properties
- c. Same physical but different chemical properties
- d. Same chemical but different physical properties

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Correct Answer:

☒ A ☐ B ☐ C ☐ D

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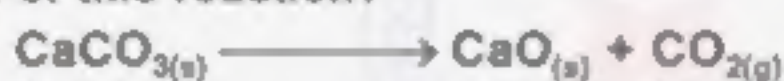
Time Remaining: 44/45 (Minutes)

Q.4

Test 1 Introduction to
Fundamental chemistry

Chemistry Unit Wise

When lime stone (CaCO_3) is roasted, quicklime (CaO) is produced according to the following equation. The actual yield of CaO is 0.5kg when 1kg of limestone is roasted. What is the percentage yield of this reaction?



A) 89.3%

B) 85.2%

C) 80.1%

D) 87.3%

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Correct Answer:



A



B



C



D

Next

Back



Time Remaining: 44/45 (Minutes)

Q.5

Test 1 Introduction to
Fundamental chemistry

Chemistry Unit Wise

Which of the following statement is correct:

- a. The no. of negative ions having group of atoms is less common
- b. The properties of an element mostly corresponded to the most abundant isotope of that element
- c. Elements with odd atomic number process more than two isotopes
- d. The current strength of each isotope of an element gives mass no.

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Correct Answer:

☒ A ☐ B ☐ C ☐ D

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Time Remaining: 44/45 (Minutes)

Q.6

Test 1 Introduction to
Fundamental chemistry

Chemistry Unit Wise

A sample in the ionization chamber of mass spectrometer is ionized by:

- A) Electrons
- C) neutron

- B) Proton
- D) nucleus

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Correct Answer:



A



B



C



D

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Time Remaining: 44/45 (Minutes)

Q.7

Test 1 Introduction to
Fundamental chemistry

Chemistry Unit Wise

One mole of CO_2 contains:

- a. $6.022 \times 10^{23} \times 2$ atoms of oxygen
- b. 22-moles electrons
- c. 6.022×10^{23} atoms of carbon
- d. Both b and c

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Correct Answer:

☒ A ☐ B ☐ C ☐ D

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Time Remaining: 44/45 (Minutes)

Q:8

Test 1 Introduction to
Fundamental chemistry

Chemistry Unit Wise

Total number of atoms present in 49.0g H_2SO_4 are:

- A) $7 \times 6.022 \times 10^{23}$ number of atoms
- B) $7 \times 3.011 \times 10^{23}$ number of atoms
- C) It contains 1g molecules of H_2SO_4
- D) It contains 0.6g atoms of H_2SO_4

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Correct Answer:

☒ A ☐ B ☐ C ☐ D

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Time Remaining: 44/45 (Minutes)

Q.9

Test 1 Introduction to
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Chemistry Unit Wise

Mass spectrum is obtained by plotting graph between:

- a. m/e along ordinate and relative number of ions along abscissa
- b. m/e along x-axis and relative number of ions along y-axis
- c. relative atomic mass along x-axis and m/e along y-axis
- d. none of the above

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Correct Answer:

☒ A ☐ B ☐ C ☐ D

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Time Remaining: 43/45 (Minutes)

Q.10

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The number of moles of CO_2 which contains 16 g of oxygen is

- a. 0.25 b. 0.75
c. 1 d. 0.5

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Correct Answer:

☒ A ☐ B ☐ C ☐ D

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Time Remaining: 43/45 (Minutes)

Test 1 Introduction to
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Chemistry Unit Wise

Which one of the following is not generally same for one mole of different gases at STP?

- a. Volume
- b. Number of molecules
- c. Molecular mass
- d. all of them.

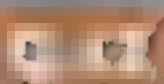
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Q A B C D

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**Time Remaining: 43/45 (Minutes)****Test 1 Introduction to
Fundamental chemistry****Chemistry Unit Wise**

4g H_2 reacts with 32.0g O_2 to produce water. Which of the following statements is correct?

- A) H_2 -limiting reactant
- B) O_2 -non-limiting reactant
- C) 2.0 mole water is produced
- D) 1 mole water is produced.

Question Answer☒ A☐ B☐ C☐ D**Next****Back**

Chemistry Unit Wise

D) all of them

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Time Remaining: 43/45 (Minutes)

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The volume occupied by 1.6g of O_2 at STP is:

a. $2.24dm^3$

b. $22.4dm^3$

c. $1.12dm^3$

d. $112dm^3$

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Question Answer

Q A B C D

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Time Remaining: 43/45 (Minutes)



**Test 1 Introduction to
Fundamental chemistry**

Chemistry Unit Wise

Which of the following statements is incorrect for isotopes of an element?

- A) They have different position in the modern periodic table
- B) They have different mass number
- C) They have different physical properties
- D) They have different half-life

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Question Answer

Q A B C D

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Time Remaining: 43/45 (Minutes)

**Test 1 Introduction to
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The electrometer is also called as:

- A) Ion producer B) ion separator
C) ion collector D) All of given

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Time Remaining: 43/45 (Minutes)

Test 1 Introduction to
Fundamental chemistry

Chemistry Unit Wise

Which information obtained from electrometer gives the relative abundance of ions of a definite m/e value?

- A) Direction of flow of electric current
- B) Strength of electric current
- C) Both strength and direction of flow of electric current
- D) All of given

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**Time Remaining: 42/45 (Minutes)****Test 1 Introduction to
Fundamental chemistry****Chemistry Unit Wise**

The combustion analysis of an organic compound shows 60% carbon, 8% hydrogen and 32% oxygen. If the molecular mass of the given organic compound is 200, then the molecular formula of the organic compound is (Ar of C = 12amu, H = 1 amu and O = 16amu)

A) $C_{10}H_{16}O_4$ B) $C_8H_{16}O_4$ C) $C_{18}H_{14}O_4$ D) $C_5H_8O_2$ **STAR INSTITUTE LAHORE****Question Answer****Next****Back**



Time Remaining: 42/45 (Minutes)

**Test 1 Introduction to
Fundamental chemistry**

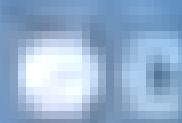
Chemistry Unit Wise

Which represent the simple ratio of atoms present in a compound?

- a. Molecular formula
- b. formula unit
- c. Gravimetric analysis
- d. Physical analysis

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Question Answer



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Time Remaining: 42/45 (Minutes)

Test 1

Test 1 Introduction to
Fundamental chemistry

Chemistry Unit Wise

Which of the following contains one mole of the stated particles?

- A) Chlorine molecules in 35.5g of Cl_2 gas
- B) Electrons in 1g of hydrogen gas
- C) H^+ ions in 1dm^3 of 1 mole dm^{-3} of aqueous solution of H_2SO_4
- D) Oxygen atoms in 22.4 dm^3 of oxygen gas at STP

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Question 1



Next

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Time Remaining: 42/45 (Minutes)



Test 1 Introduction to
Fundamental chemistry

Chemistry Unit Wise

Total number of atoms present in 17g of hydrogen peroxide is ($N = 6.02 \times 10^{23}$):

A) 1.2×10^{24}

B) 1.8×10^{25}

C) 6.02×10^{23}

D) 1.6×10^{26}

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Question Answer



Next

Back

**Time Remaining: 42/45 (Minutes)****Test 1 Introduction to
Fundamental chemistry****Chemistry Unit Wise**

0.5 mole of magnesium is burnt in excess oxygen. How much amount of MgO is produced in this reaction

(Mg = 24amu, O = 16amu)



A) 40g

B) 20g

C) 30g

D) 15g

STAR INSTITUTE LAHORE**Question Answer****Next****Back**

Chemistry

Time Remaining: 42/45 (Minutes)

Test 1

Test 1 Introduction to
Fundamental chemistry

Chemistry Unit Wise

Which one of the following is a CO_2 absorber?

- a. NaOH
- b. KOH
- c. $Ca(OH)_2$
- d. $MgCl_2$

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Your Answer

A B C D

Next

Back



Time Remaining: 42/45 (Minutes)



Test 1 Introduction to
Fundamental chemistry

Chemistry Unit Wise

Which one of the following is not a water absorber?

- A) *conc* H_2SO_4
- B) Anhydrous $CuSO_4$
- C) $CaCO_3$
- D) $Mg(ClO_4)_2$

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Question Answer



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Chemistry

Time Remaining: 41/45 (Minutes)

05/11/2023

Test 1 Introduction to
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Chemistry Unit Wise

Which one of the following compound doesn't have same molecular and empirical formula?

- a. CH_3COOH
- b. $\text{C}_{12}\text{H}_{22}\text{O}_{11}$
- c. $\text{CH}_3 - \text{CH}_2 - \text{OH}$
- d. $\text{CH}_3 - \text{CH}_2 - \text{CHO}$

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Your Answer

A

B

C

D

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**Time Remaining: 41:45 (Minutes)****Test 1 Introduction to
Fundamental chemistry****Chemistry Unit Wise**

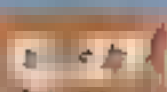
For those compounds which have same molecular and empirical formula, the value of simple multiple 'n' is?

- a. 2 b. 4
c. 1 d. 3

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Time Remaining: 41:45 (Minutes)



**Test 1 Introduction to
Fundamental chemistry**

Chemistry Unit Wise

The value of simple multiple 'n' is:

- a. The ratio of atomic mass and molecular mass
- b. The ratio of molecular mass and empirical mass
- c. The ratio of empirical mass and molecular mass
- d. The ratio of molecular mass and atomic mass

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Question Answer

Q A B C D

Next

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Time Remaining: 41:45 (Minutes)



**Test 1 Introduction to
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Chemistry Unit Wise

One gram molecular mass of different substances expressed in grams must possess:

- a. Have different masses in them
- b. have same masses in them
- c. Some times same masses and some times different masses in them
- d. All given above

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Question Answer



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Time Remaining: 41:45 (Minutes)

8/5/21

Test 1 Introduction to
Fundamental chemistry

Chemistry Unit Wise

One mole of different compounds has:

- A) different masses and different number of molecules
- B) same masses but different number of molecules
- C) different masses but same number of molecules
- D) same masses as well as same number of molecules

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Question Answer

Q A B C D

Next

Back



Time Remaining: 41:45 (Minutes)



Test 1 Introduction to
Fundamental chemistry

Chemistry Unit Wise

Which one of the following statement is not true about molecule?

- a. molecule can exist independently
- b. molecule is the largest particle of a pure substance
- c. molecule always consist of more than one atoms
- d. molecular size depends on number of atoms and shape of molecule

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Q111 - Answer

Q111 - Answer

Next

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Chemistry

Time Remaining: 40/45 (Minutes)

Test 1 Introduction to
Fundamental chemistry

Chemistry Unit Wise

Molar volumes is 22.414 dm^3 It is true:

- a. only when the gas is ideal
- b. only when the gas is non-ideal
- c. for ideal gas as well as for non-ideal gas
- d. sometimes true for ideal gas and some time true for non ideal

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Your Answer

A

B

C

D

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Time Remaining: 40/45 (Minutes)



Test 1 Introduction to
Fundamental chemistry

Chemistry Unit Wise

One mole of an ideal at room temperature and pressure (r.t.p.) occupies a volume of:

a. 22dm^3

b. 20dm^3

c. 24dm^3

d. 26dm^3

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Question Answer

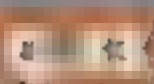


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Time Remaining: 40/45 (Minutes)



**Test 1 Introduction to
Fundamental chemistry**

Chemistry Unit Wise

414 dm³ of each gas at STP has :

- a. a same mass and same numbers of molecules
- b. a different mass and different numbers of molecules
- c. a different mass but the same number of molecules
- d. a same mass but different number of molecules

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Question Answer

Q A B C D

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**Time Remaining: 40/45 (Minutes)****Test 1 Introduction to
Fundamental chemistry****Chemistry Unit Wise**

Many elements have fractional atomic masses. This is because:

- a. The mass of the atom is itself fractional
- b. Atomic masses are average masses of isobars
- c. Atomic masses are average masses of isotopes
- d. Atomic masses are average masses of isotopes proportion to their relative abundance

STAR INSTITUTE LAHORE**Correct Answer****CA****Next****Back**



Time Remaining: 40/45 (Minutes)



Test 1 Introduction to
Fundamental chemistry

Chemistry Unit Wise

For a reaction $X + 2Y \rightarrow Z$. The amount of Z formed by starting the reaction with 5 moles of X and 8 moles of Y:

- A) 5 moles B) 8 moles
C) 16 moles D) 4 moles

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Q111 - Answer

Q111 Q112 Q113 Q114 Q115

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**Time Remaining: 40/45 (Minutes)****Test 1 Introduction to
Fundamental chemistry****Chemistry Unit Wise**

One mole of water and one mole of methane have an equal:

- A) mass
- B) number of atoms
- C) number of molecules
- D) number of formula units

STAR INSTITUTE LAHORE**Correct Answer****CA****Next****Back**

Chemistry

Time Remaining: 40/45 (Minutes)

Test 1 Introduction to
Fundamental chemistry

Chemistry Unit Wise

A compound has an empirical formula CH_2Cl , and molecular formula mass as 99g mol^{-1} , identify the compound,

- A) $\text{C}_2\text{H}_5\text{Cl}$ B) $\text{C}_4\text{H}_8\text{Cl}$
C) $\text{C}_2\text{H}_4\text{Cl}_2$ D) $\text{C}_2\text{H}_3\text{Cl}_3$

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Your Answer

A B C D

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Time Remaining: 39/45 (Minutes)



Test 1 Introduction to
Fundamental chemistry

Chemistry Unit Wise

The Avogadro's Number is the number of:

- a. numbers of the molecules of H_2 in 1 gram
- b. number of the molecules of CO_2 in 44 grams
- c. number of atoms in CO_2 in 44 grams
- d. number of oxygen atoms in CO_2 in 44 grams

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Correct Answer

CA B C D

Next

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Time Remaining: 39/45 (Minutes)



Test 1 Introduction to
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Chemistry Unit Wise

The empirical formula of a compound is CH_2O . What other information is needed to determine its molecular formula?

- a. %age composition of each element in compound
- b. density of the compound
- c. relative molecular mass of the compound
- d. boiling point of the compound

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Question Answer

Q A B C D

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Time Remaining: 39/45 (Minutes)



Test 1 Introduction to
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Chemistry Unit Wise

100g of CaCO_3 is decomposed, the CO_2 produced occupies a volume at STP.

- a. 2.2414 dm^3 b. 22.414 dm^3
c. 22414 dm^3 d. 224014 dm^3

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1.

Which of the following statements about 12 g sample of C-12 is incorrect?

A) The number of C atoms is 6.022×10^{23}

B) The number of C atoms is the same as number of the atoms in 4 g of ${}^3_2\text{He}$

C) The number of C atoms is the same as electrons in 1.0 g of H_2

D) The number of C atoms is double that of electrons in 15.0 g of Fe

2.

The mass spectrum of lead is shown

What quantities are represented

by x-axis and y-axis?



Options	Correct	Incorrect
A)	Mass number	Relative intensity
B)	Atomic number	Height of peak
C)	Atomic number	Mass number
D)	Mass number	Atomic number

3.

1. Isotopes of an element possess:

- a. Same physical and chemical properties
- b. Different physical and chemical properties
- c. Same physical but different chemical properties
- d. Same chemical but different physical properties



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4.

When limestone (CaCO_3) is roasted, quicklime (CaO) is produced according to the following equation. The actual yield of CaO is 0.5 kg when 1 kg of limestone is roasted. What is the percentage yield of this reaction?



A) 89.3%

B) 85.2%

C) 80.1%

D) 87.3%



5.

Which of the following statement is correct:

- a. The no. of negative ions having group of atoms is less common
- b. The properties of an element mostly corresponded to the most abundant isotope of that element
- c. Elements with odd atomic number process more than two isotopes
- d. The current strength of each isotope of an element gives mass no.



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سید الخیر

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6.

A sample in the ionization chamber of mass spectrometer is ionized by:

- A) Electrons
- B) Proton
- C) neutron
- D) nucleus



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One mole of CO_2 contains

- a. 6.022×10^{24} x 2 atoms of oxygen
- b. 22 moles electrons
- c. 6.022×10^{23} atoms of carbon
- d. Both b and c

8.

Total number of atoms present in 49.0g H_2SO_4 are

- A) $7 \times 6.022 \times 10^{23}$ number of atoms
- B) $7 \times 6.022 \times 10^{23}$ number of atoms
- C) It contains 4g molecules of H_2SO_4
- D) It contains 0.6g atoms of H_2SO_4





سید اختر عباس جعفری

1. Mass spectrum is obtained by plotting m/z

9.

1. Mass spectrum is obtained by plotting graph between:

a. m/e along ordinate and relative number of ions along abscissa

b. m/e along x-axis and relative number of ions along y-axis

c. relative atomic mass along x-axis and m/e along y-axis

d. none of the above

10.

The number of moles of CO_2 which contains 16 g of oxygen is

a, 0.25

b, 0.75

c, 1

d, 0.5

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14.

Which one of the following is not generally same for one mole of different gases at STP?

- a. Volume
- b. Number of molecules
- c. Molecular mass
- d. all of them.



12.

4g H_2 reacts with 32.0g O_2 to produce water. Which of the following statements is correct?

- A) H_2 -limiting reactant
- B) O_2 -non-limiting reactant
- C) 2.0 mole water is produced
- D) 1 mole water is produced

13.

Which of the following is correct sequence of processes involved in modern mass spectrometer?

- A) Vaporization, ionization, electric field, amplification, recording, ion collector, magnetic field.
- B) Ionization, electric field, ion collector, vaporization, ion collector, recording, amplification.
- C) Vaporization, ionization, electric field, ion collector, ion collector, amplification and recording.
- D) all of them



14.

The volume occupied by 1.6g of O_2 at STP is:

a. 2.24 dm³

c. 11.2 dm³

b. 22.4 dm³

d. 112 dm³



15.

Which of the following statements is incorrect for isotopes of an element?

- A) They have different position in the modern periodic table.
- B) They have different mass number.
- C) They have different physical properties.
- D) They have different half-life.



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16

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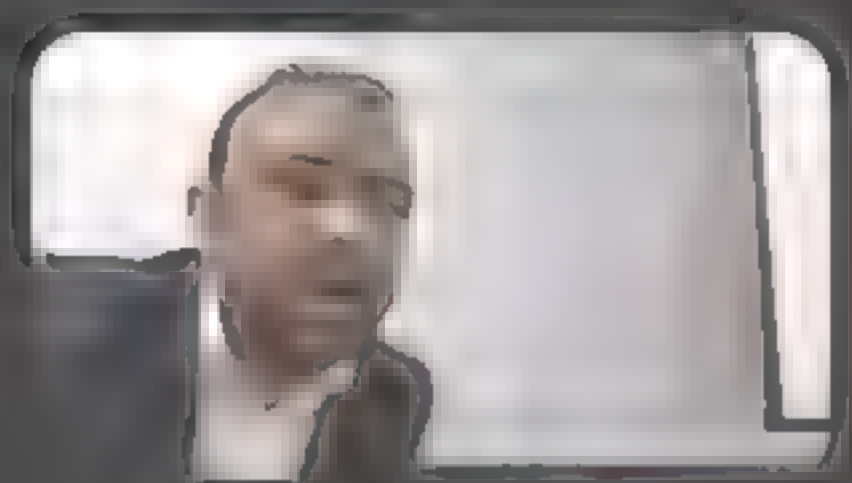


17.

Which information obtained from electrometer gives the relative abundance of ions of a definite m/e value?

- A) Direction of flow of electric current
- B) Strength of electric current**
- C) Both strength and direction of flow of electric current
- D) All of given



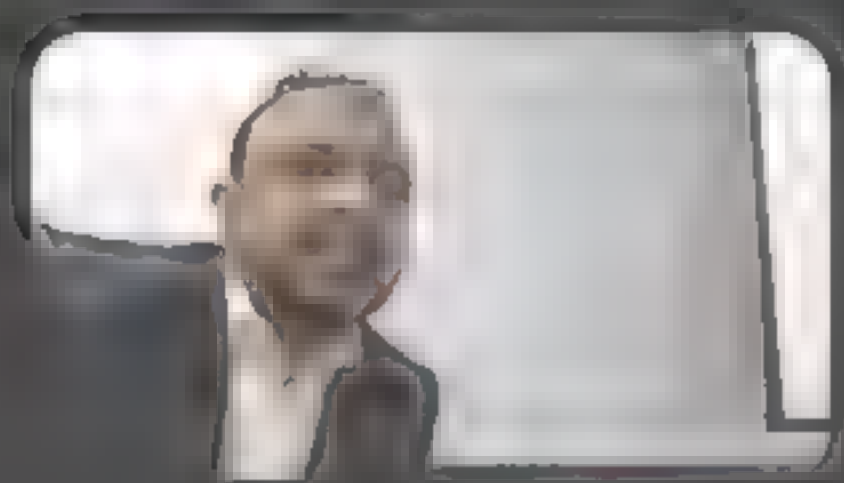


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The combustion analysis of an organic compound shows 60% carbon, 8% hydrogen and 32% oxygen. If the molecular mass of the given organic compound is 200, then the molecular formula of the organic compound is (Ar of C = 12amu, H = 1amu and O = 16amu)



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19.

Which represent the simple ratio of atoms present in a compound?

- a. Molecular formula
- b. Formula unit**
- c. Gravimetric analysis
- d. Physical analysis



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20.

Which of the following contains one mole of the stated particles?

- A) Chlorine molecules in 35.5g of Cl_2 gas
- B) Electrons in 1g of hydrogen
- C) H^+ ions in 1dm³ of 1 mole dm⁻³ of aqueous solution of H_2SO_4
- D) Oxygen atoms in 22.4 dm³ of oxygen gas at STP



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Zoom

4:51

21.

Total number of atoms present in 17g of hydrogen peroxide is ($N = 6.02 \times 10^{23}$):

A) 1.2×10^{24} B) 1.8×10^{25} C) 6.02×10^{23} D) 1.6×10^{26} 

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Unmute



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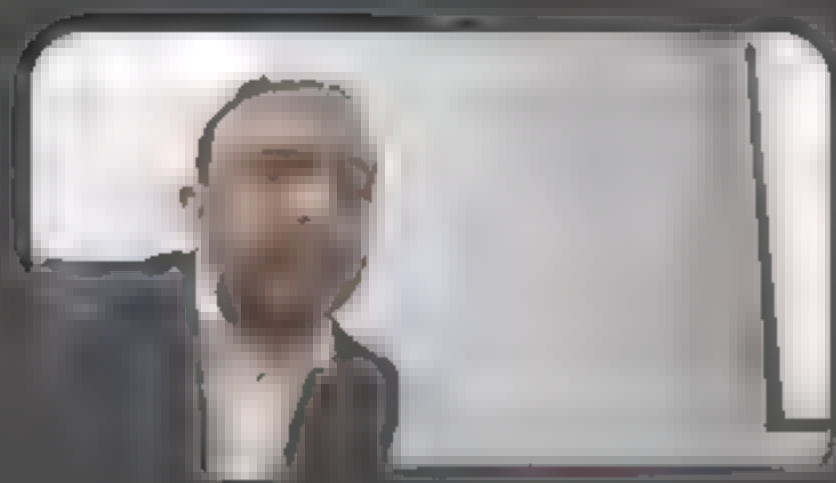


Participants

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More



22

0.5 mole of magnesium is burnt in excess oxygen. How much amount of MgO is produced in this reaction.

(Mg = 24amu, O = 16amu)



A) 40g

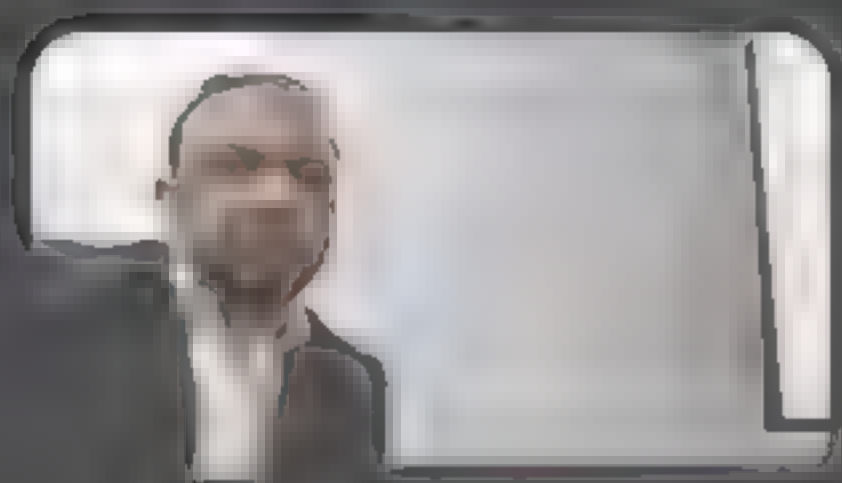
B) 20g

C) 30g

D) 15g



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1. Which one of the following is a CO_2 absorber?

a. NaOH

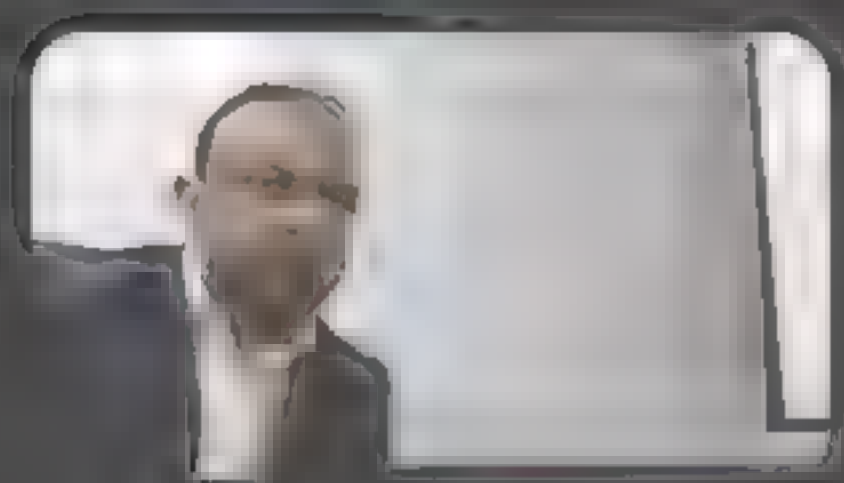
b. KOH

c. Ca(OH)_2

d. MgCl_2



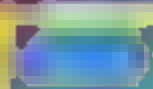
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Which one of the following is not a water absorber?

- A) conc H_2SO_4
- B) Anhydrous $CuSO_4$
- C) $CaCO_3$
- D) $Mg(ClO_4)_2$

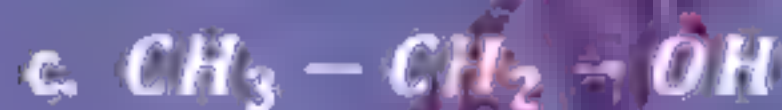


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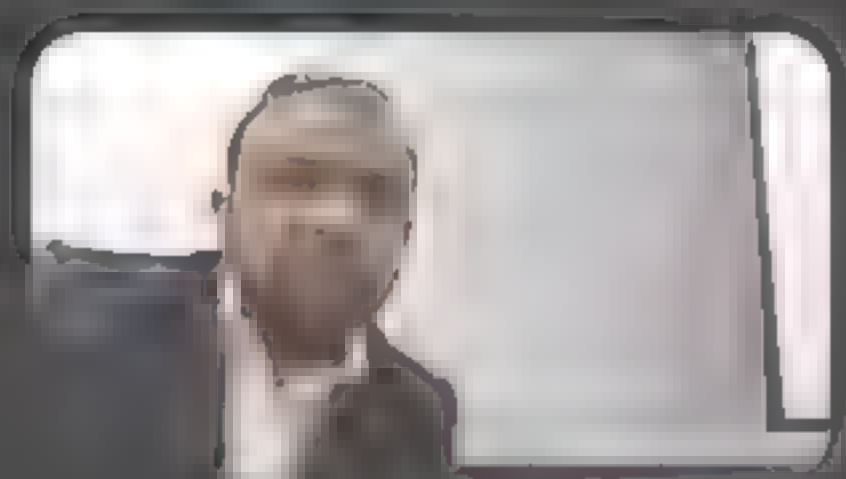


25

Which one of the following compound doesn't have same molecular and empirical formula?



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26

For those compounds which have same molecular and empirical formula, the value of simple multiple 'n' is?

a. 2

☒ c. 1

b. 4

d. 3



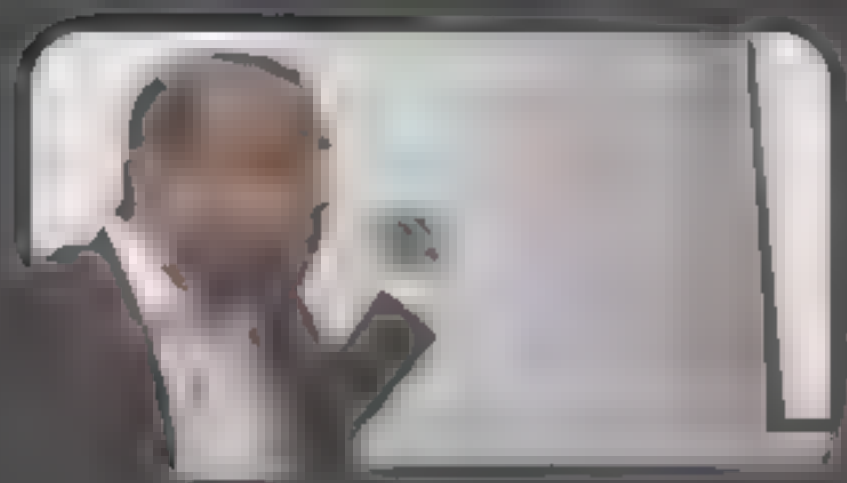
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27.

The value of simple multiple 'n' is:

- a. The ratio of atomic mass and molecular mass
- b. The ratio of molecular mass and empirical mass
- c. The ratio of empirical mass and molecular mass
- d. The ratio of molecular mass and atomic mass

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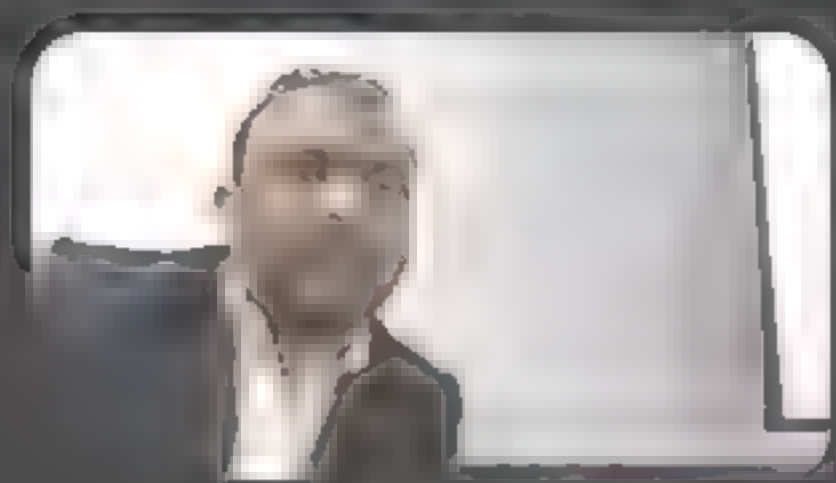
28

One gram molecular mass of different substances expressed in grams must possess:

- a. Have different masses in them
- b. have same masses in them
- c. Some times same masses and some times different masses in them
- d. All given above



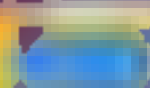
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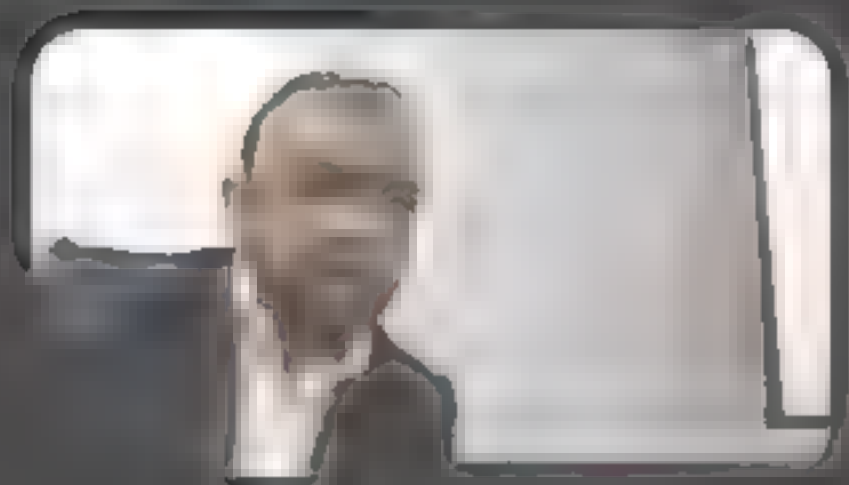
29.

One mole of different compounds has

- (A) different masses and different number of molecules
- (B) same masses but different number of molecules
- (C) different masses but same number of molecules
- (D) same masses as well as same number of molecules



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30.

Which one of the following statement is not true about molecule?

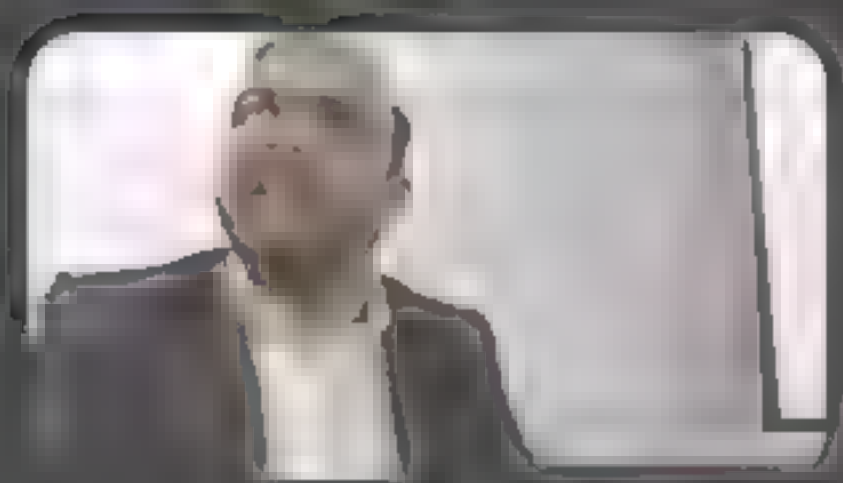
- a. molecule can exist independently
- b. molecule is the largest particle of a pure substance

Correct answer is: c. molecule is the smallest particle of a pure substance

- d. molecular size depends on number of atoms and shape of molecule



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31

Molar volumes is $22.414 \text{ dm}^3 \text{ mol}^{-1}$ is true

only when the gas is non-ideal

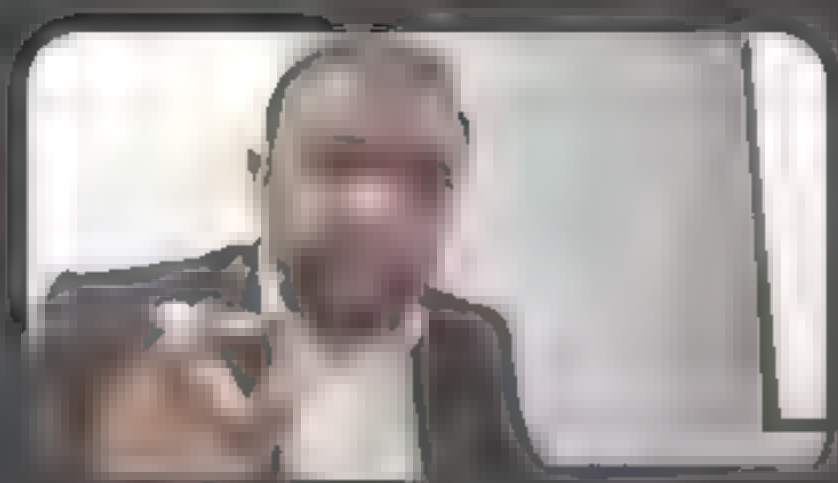
only when the gas is non-ideal

for ideal gas as well as for non-ideal gas

sometimes true for ideal gas and some time true for non ideal gas



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32

One mole of an ideal at room temperature and pressure (r.t.p.) occupies a volume of:

a. 22dm^3 c. 24dm^3 b. 20dm^3 d. 26dm^3 

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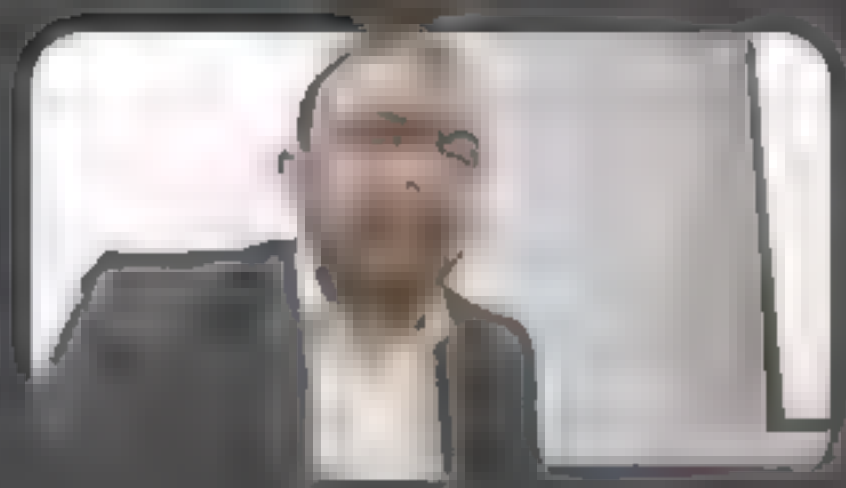
33.

414 dm³ of each gas at STP has

- a. a same mass and same numbers of molecules
- b. a different mass and different numbers of molecules
- c. different mass but same number of molecules
- d. same mass but different number of molecules



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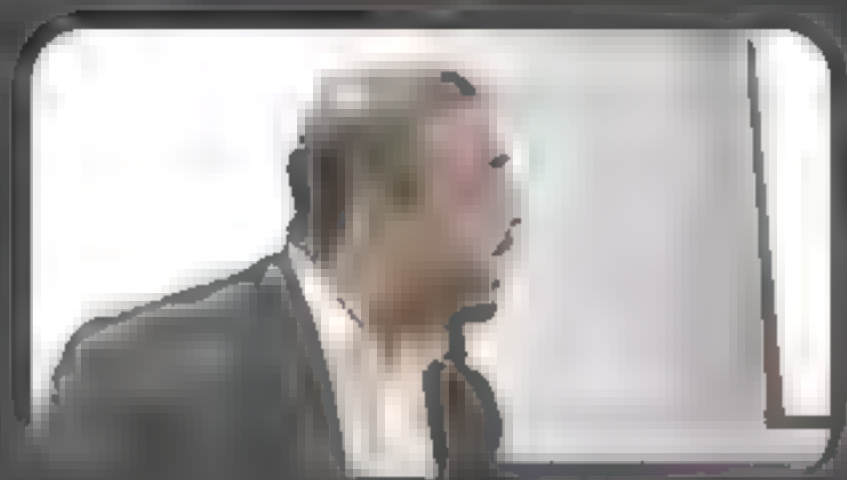
34.

Many elements have fractional atomic masses. This is because:

- a. The mass of the atom is itself fractional
- b. Atomic masses are average masses of isobars
- c. Atomic masses are average masses of isotopes
- d. Atomic masses are average masses of isotopes



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35

For a reaction $X + 2Y \rightarrow Z$. The amount of Z formed by starting the reaction with 5 moles of X and 8 moles of Y:

A) 5 moles

B) 8 moles

C) 16 moles

D) 4 moles



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36

One mole of water and one mole of methane have an equal:

- A) mass
- B) number of atoms
- ☒ C) number of molecules
- D) number of formula units



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37.

A compound has an empirical formula CH_2Cl , and molecular formula mass as 99g mol^{-1} , identify the compound,



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38.

The Avogadro's Number is the number of:

- a. numbers of the molecules of H_2 in 1 gram
- b. number of the molecules of CO_2 in 44 grams
- c. number of atoms in CO_2 in 44 grams
- d. number of oxygen atoms in CO_2 in 44 grams

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39.

The empirical formula of a compound is CH_2O . What other information is needed to determine its molecular formula?

- a. %age composition of each element in compound
- b. density of the compound
- c. relative molecular mass of the compound
- d. boiling point of the compound

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40.

100g of CaCO_3 is decomposed, the CO_2 produced occupies a volume at STP.

a. 2.2414 dm^3 b. 22.414 dm^3 c. 22414 dm^3 d. 224014 dm^3  STAR INSTITUTE